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UNITED NATIONS CONFERENCE
ON THE APPLICATION OF SCIENCE AND TECHNOLOGY
FOR THE BENEFIT OF THE LESS DEVELOPED AREAS

Agenda Item: H

Czechoslovakia

PREREQUISITES AND PRINCIPLES OF PLANNED ECONOMIC MANAGEMENT

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No. 1211
H.

Prerequisites and principles of planned economic management.

by

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(1) More or less successful attempts have been made in most countries of the world in recent years to influence the development of economy on the basis of an economic plan. In socialist countries plans are drawn up that do not remain at the level of prognosis, but that actually control the entire economic process and according to which the development of economy takes its course.

(2) The purpose of this paper is to submit basic information about the manner of planned control of economy as applied in the Czechoslovak Socialist Republic, which in a period of more than 15 years of planned economy achieved great success in the development of her economy and has thus taken her place among the ten industrially most developed countries of the world.

Presuppositions of planned control and its effectiveness.

(3) Effective planned control of a country s economy as a whole is indissolubly linked with central decisions on all basic questions of development ef economy as are proportions in the development of the various branches and sectors, the extent of investments with relations to the increase in consumption and their distribution among the various branches, the distribution of man power, the participation in the international division of labour, financial means to ensure the entire economic process, etc. A presupposition for the central decisions on the development of economy is naturally the concentration in the hands of the state of all material and financial resources created in the economy. This concentration can only be achieved really effectively when the decisive sectors of economy are owned by the state. Our experience has shown that it was possible to start planned control of the entire national economy only after the nationalisation of the basic branches of industry, banks, transport, wholesale and foreign trade. And it was found that the greater the share of state - owned economy in the nation's economy, the more effective planned control was and the better the fulfilment of the plans.

(4) Planned control, the drawing up of plans and their realisation cannot be the matter of only a central planning organ. The determination of a plan ensuring the quick development of national economy and its fulfilment depend on the active participation of all enterprises and economic organisations and in particular of the wide masses of the working people. This can be achieved only when the plans by their aim and direction fully correspond with the interests of the working people, i.e. a speedy and lasting increase of their material and cultural standard. Thus, a further presupposition of effective planned control is the agreement between the aims of planning and the interests of the working people. In the Czechoslovak Socialist Republic just as in the other socialist countries where this agreement of interests is ensured by the social ownership of the means of production millions of working people share in the planning, which is the foundation of its great effectiveness. The fundamental agreement of every worker s individual interests in the rise of the living standard with the interests of society as a whole in the development of the nation s economy is simultaneously ensured by various forms of material interests, in particular a system of wages and bonuses for the successful fulfilling of the tasks set out by the plan.

(5) Indirect methods of control, regulating the economic activity of enterprises and guiding them towards the fulfilment of the plan s aims apart from controlling the direct tasks set out by the plan, are also based on using the workers material interests. The main instruments of indirect control are bonuses, prices, interests, fines for not fulfilling delivery agreements, etc.

(6) A further presupposition of planned control is the creation of a unified organisation of management of the entire nation s economy from top to bottom, making possible the most effective manner of drawing up the plan and its realisation. What such an organisation should look like, according to our experience, is stated in the next part of this paper.

(7) The prerequisite for planned control is a state monopoly on foreign trade which makes possible to direct import and export according to plan and in agreement with the needs of the planned development of the nation s economy and to regulate uniformly trade policy with the various countries. In Czechoslovakia it has been found satisfactory to carry out foreign trade through special organisations, which makes possible the isolation of production and the home market from the uncontrolled fluctuations of the world capitalist market.

(8) A further demand of the effective planning of economy is the creation of a unified organisation and central administration of the financial and credit system in such a way as to make it serve the interests of the plan and support its fulfilment. The financial system will be discussed in greater detail in connection with the organisation of planned control.

(9) Prices play an important part in planned management, whether as a gauge for the quantity of work done, an instrument to express the total proportions of economy or as a

stimulant acting on the increase or decrease of a certain consumption. If the prices are to fulfil these functions the establishment of unified state-controlled prices is essential.

(10) One of th most important instruments of planned control are wages. The planning of wages / besides price control and the control of the production of consumer goods / ensures agreement between the population s demand and the amount of consumer goods on the market and adds to the worker s material interest in the increase of productivity of labour, the increase in qualification and the priority completion of work most important for the development of economy. The presupposition for this is, however, the central regulation of the wage policy by the state.

(11) A very important condition for planned control is the establishment of a unified statistic and accountancy system at all stages of management. This system must ensure an exact and reliable survey of all aspects of the economic process both within the enterprise as well as in the entire economy; it must put at the disposal of the controlling organs information about the state of the economy that is necessary for the drawing up of the plan and information on the fulfilment of all tasks set by the economic plan. This is the basis for a continuous control of the fulfilment of the plan.

(12) These presuppositions for the effectiveness of planned control of the nation s economy are fully realised in Czechoslovakia. The organisation of control and the system of planning in Czechoslovakia are based on these presuppositions, as will be shown below.

Organisation of planned administration of national economy.

(13) Planned control of a nation s economy makes certain demands on the organisational structure of the entire economy.

(14) First of all the existence of a central planning organ is essential which as the organ of the government and in accordance with its instructions prepares drafts of the state economic plans, submits them to the government for approval and controls their fulfilment. The economic plan is not, as has already been stated, the only instrument of the economic policy of the state, even though it is the main and decisive instrument. If, as it is essential in planned economy, all instruments through which the state controls economy are to create one unit, it is necessary to coordinate wages, prices and all other measures of wider economic range with the aims and possibilities of the economic plan and to subordinate them to the interests of the plan. This is why it has proved expedient that the central planning organ is also the centre coordinating all economic control. This naturally does not mean, as will be seen from further expositions, that the central planning organ should be the only organ of the government for all questions of administering economy. The planning of the economic development is not a matter exclusively of this planning organ.

If the economy is to have a really planned character it is essential that planning should become a feature of every controlling activity, that every economic organisation setting out from the all-state plan, should plan its own development. The central planning organ is in a certain sense an auxiliary organ of the government and thus cannot itself decide on the administration of economy. Its proposals have always the character of recommendations to the government and become government measures only after approval. It is therefore necessary that the planning organ should not replace the government in the management of the economy and thus become am "economic government" which would lead to a harmful split between decisions on the economic development of the country and the political administration of the state.

(15) In the Czechoslovak Socialist Republic there exists such a central planning organ in the form of the State Planning Commission composed on the one hand of a special commission headed by a chairman who is always a member of the government, on the other hand of the permanent staff of the State Planning Commission. In the interests of close cooperation between the State Planning Commission and the other central organs and the increase of their responsibility in the drawing up of the whole economic plan it is expedient that the members of the State Planning Commission should be ministers or heads of the main economic organs; other members of the commission are outstanding representatives of economic and scientific life and the foremost employees of the permanent staff of the State Planning Commission.

(16) It is the main task of the permanent staff of the State Planning Commission tc prepare together with the help of the other economic and scientific organs the draft of a reciprocally interconnected and balanced economic plan. This extremely exacting work demands that a sufficient number of highly qualified economists, technicians and other experts should be concentrated among the permanent staff of the State Planning Commission, having apart from the necessary expert knowledge and organisational capabilites also high moral qualities and being fully devoted to the cause of economic development of their country.

(17) To have a sufficient amount of objective information on the economic development of the country and on the fulfilment of the approved plan, it is essential to build up a state statistic organisation controlled by the central statistic organ, which investigates, verifies and compiles this information. It is hardly necessary to stress that full harmonisation in planning and statistical work is necessary.

(18) A further organ of the government for the planned administration of economy is the Ministry of Finance. Its task is to submit the budget to the government and to control other organisations of the financial system. In a planned economy the state budget has a special character arising out of its dependence on the economic plan; it is a certain financial reflection of the material proportions of the economic plan. This is why close interconnection between the plan and budget is essential.

(19) A further link in the financial system of Czechoslovakia is the State Bank, which is the cash, accountancy and credit centre for all enterprises and organisations, issues money and carries out financial operations with foreign countries. Branch offices of the State Bank are in constant contact with the various enterprises and through financial means influence the fulfilment of the tasks set by the plan, the keeping of planning and financial discipline in the enterprises. Part of the financial system in the Czechoslovak Socialist Republic are further the State Savings Bank, which accumulates the savings of the population and grants loans to the inhabitants and the State Insurance as the only insurance institution in the state.

(20) For the solution of some basic questions of economic policy special commissions or committees are established by the government, composed of chosen ministers and leading workers from various central organs and equipped with the necessary number of experts. These commissions or committees are established in Czechoslovakia for instance to supervise the development of science and technique, wage questions, price control, etc..

(21) All organs mentioned so far are in the nature of objective government organs carrying out control of a certain section of economy, but as a rule they do not directly control any economic organisations / enterprises /. Enterprises and all other economic organisations are controlled by the government / with the aid of the above mentioned objective organs / either through some ministries responsible for a special sector of production or through regional organs of state power / in Czechoslovakia these regional organs are the regional, district or local national committees / . In Czechoslovak conditions it was found expedient that sectors with a high concentration of production, where enterprises ensure the covering of the needs of the entire state or of several regions, should be subordinated to an all-state organ - a ministry - whilst sectors whose enterprises are organised in such a way as always to satisfy only the need of their region are more expediently subordinated to the national committees. Throughout, however, the economic plan must ensure a proportional development with regard to the whole state in the regionally controlled sectors, whilst in the departmentally controlled sectors the effective development from the point of view of their regional placing must be borne in mind. Only in this way is it possible for the national economy to develop proportionally as one irrespective of the manner of control of the various sectors.

(22) National Committees which are elected by the population of the respective region are not only the controlling organs of these directly subordinated enterprises, but they also look after the complex development of their region and carry out a number of other functions appertaining to the local organs of state power.

(23) There are at the present time ten ministries controlling production enterprises in Czechoslovakia, seven of those in industry.

(24) The basic economic units in Czechoslovakia are enterprises. Enterprises are usual-

ly organised to include one or more branches of production or services. According to the degree of the concentration of production and the effective size of the enterprise that corresponds to the character of production and consumption, every branch of production is organised either in one or more enterprises. In such cases where one industrial branch of production is organised into a larger number of enterprises an association of enterprises is established as connecting link between the enterprises and the ministry, which controls all enterprises of the production branch in question.

(25) A well tested principle in the organisation of state enterprises is the relative economic and legal independence of each enterprise. The enterprise is an independent legal person, it is subject to laws and commitments, has its own bank account, etc. The state allots to the enterprises to be used by them as they see fit the necessary basic means / premises, machines, etc./ and money, whereby current expenses are covered by the enterprise from the sale of its own products. The enterprise is materially interested in the fulfilling of the tasks set it by the economic plan in the achievement of the highest possible economic results. Wherever necessary the enterprise is further subdivided into works; these, however, are no longer independent economic units. A director appointed by the state organs is at the head of the enterprise.

(26) In non-productive branches as health, education, state administration and such like, basic units are organised as budget organisations that draw funds for their acitivities directly from the state budget according to the approved plan. Their incomes, as far as they exist, are not sufficient to cover expenses and are therefore paid directly into the state budget.

(27) Both forms of basic economic units that have been mentioned here can be found in the state sector of economy. In the cooperative sector which is dominant in agriculture in Czechoslovakia / in industry it represents only a small part / the basic economic unit is the cooperative. Considering the cocperative form of ownership, cooperatives are not managed by the state organs by a direct allocation of tasks as is the case of the state enterprises. The linking up of the cooperatives with the entire system of planned control is brought about on the basis of agreements between the state and the cooperatives. Besides, the development of the cooperatives is influenced by various forms of indirect control as is price and credit policy, etc.

(28) All organs of planned economy must form a complete, dovetailed organisational whole which makes it possible to detail the entire economic plan from the government down to the various basic economic units as well as its full realisation.

System of planning.

(29) As the economic plan is the basic and main instrument of planned control it is necessary to explain in somewhat greater detail the principles of method and organisation

underlying it, as found most effective in Czechoslovakia.

(30) First of all it must be pointed out that a whole number of various kinds of plans make up the system of planning, plans defined according to their duration or according to the organisational level of economy they concern. The basic plan through which the state controls the entire economic activity and which allots individual tasks to the enterprises for carrying out is the annual economic plan. Annual plans are naturally too short to clarify the conception of the development of the nation's economy, it is only possible by means of the annual plan to set tasks which must be carried out within the given year to ensure the laid-down long-term conception of development.

(31) It is the task of the long-term plans to elucidate and lay down the conception of the development of national economy, the basic economic and political aims of the state such as changes in the structure of the national economy, industrialisation of the country, distribution of the forces of production, increase in the standard of living of the people and long-term trends in the development of economy altogether. In Czechoslovakia the practice of two-grade progress has been accepted in long-term planning. The direct basis for the drawing up of the annual plans are plans covering a period of several years / usually five /, which are the basic form of long-term planning. These plans make it possible to determine greater changes in the structure of the national economy and a more basic program in the increase of the living standard, in cultural and health care which simultaneously makes it possible to put before the people concrete aims to be reached in no distant time. Several-year plans covering the same period of time are also of considerable importance for economic cooperation with other countries having a planned economy. Several-year plans take the form of complex economic plans detailed right down to the enterprises in the same way as annual plans, but they lay down tasks in a more global and less concrete form. The annual plans then express the tasks of the several-year plans more concretely and define them more exactly.

(32) To ensure a smooth development for longer periods of time and always proceeding from the firm basic conception of the long-term development of national economy, it is also necessary to draw up long-term plans covering 15 to 20 years. A long-term plan does not take the form of tasks set various enterprises, it is rather a scientific and technical study covering long-term trends in the change of the structure of the national economy and in the speed of development of the various sectors.

(33) On the basis of the state economic plans /whether annual or covering several years/ the plans for the various organisational levels / ministries, national committees, enterprises, etc./ of economy are drawn up. They are usually worked out in greater detail than the economic plan, but must link up with it under all conditions. The detailing of the economic plan into the enterprises and its realisation is ensured by a system of indexes approved by the government and detailed through the ministries or national committees right down to the enterprises. By these indexes the production tasks / total volume of

production and some special tasks / are set for the enterprises, the quality indexes under which the production tasks are to be fulfilled / height of productivity of labour per worker, costs per unit of production, etc./, and the limits of means allotted to ensure production / man power, most important raw materials and money /. In the case of the most important products the producer is also instructed to which consumer enterprises and in what quantity he is to deliver his products. Apart from these indicators approved by the government the national economic plan contains to a wide extent calculations and basic material on the basis of which the financial balancing and the entire proportionality of the plan is ensured. Within the framework of the fixed indicators of the economic plan the enterprises and the ministries or national committees are then empowered to work out their plans in greater detail according to concrete local conditions.

(34) In this concise exposition of the system of planned control in Czechoslovakia it is necessary to mention in greater detail the process of drawing up the economic plan. The first stage of drawing up every / annual or several-year/ plan is the working out of provisions for the drawing up of the plan expressing the aims of the economic policy of the state in the given period and the basic tasks, which have to be achieved by the plan. The provisions approved by the government / in the case of a several-year plan by the highest political organs / and drawn up in detail even for the enterprises become the binding basis for the drawing up of the draft plan. The draft plan comes from the enterprises, is compiled at the superior ministries or national committees and finally at the State Planning Commission. In the drawing up of the draft plan deliveries of products among the enterprises are clarified during discussions between supplier and consumer organisations to ensure the maximum harmonization of the plan of interconnected enterprises and ministries. The full balancing of the entire plan must be ensured by the State Planning Commission by harmonizing the draft plans of the various ministries and by working out a complex all-state economic plan, which is then submitted to the government for approval. After the government's approval the plan is specified in detail to all enterprises and organisations as already mentioned before.

(35) To make it possible in the course of the fulfilment of the plan to eliminate partial disproportions arising out of the non-fulfilment or overfulfilment of the plan in various sectors of economy or through other circumstances that could not be foreseen in the drawing-up of the plan, a reserve is created in the plan. This means mostly a so-called balance-reserve, i.e. part of planned resources which are not distributed for use already within the plan, but only in the course of its realisation as necessary at any given moment.

(36) Finally it must be stressed that an essential presupposition for the plan to ensure the use of all resources of national economy and the maximum increase in the social productivity of labour and thus in a speedy development of national economy is, according to our experience, the wide participation of the working people in the drawing up and the

realisation of the plan. This is why the trade unions, national committees and other political organisations mobilise the working people to active participation in the solution of problems of development of economy in enterprises, cooperatives, in town and country-side. The rich experiences and the creative initiative of the working people, arising from the consciousness of the full agreement of their interests with the interests of the development of the economy make possible the fulfilment of courageous plans for a speedy development of the economy of the Czechoslovak Socialist Republic.

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Czechoslovakia

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By Ing. Matějka LADISLAV,
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Prerequisites and principles of planned economic management.

by

Ing. M a t ě j k a Ladislav, Head of Department, Research Institute of Economic Planning, State Planning Commission of the Czechoslovak Socialist Republic

I. Presuppositions of planned control and its effectiveness

(1) The better the presuppositions mentioned below are fulfilled the more effective planned control of economy will be:

(a) concentration of the material and financial resources in the hand of the state

(b) agreement between the aims of planning and the interests of the working people

(c) unified organisation of control of economy

(d) state monopoly of foreign trade

(e) unified arrangement and central administration of financial and credit system

(f) central administration and determination of unified and for a certain period of time stabilised prices by the state.

II. Organisation of planned administration of economy.

(2) Effective planned administration of national economy makes certain demands on the organisational structure of economy. In Czechoslovakia economy has been organised as follows:

(i) The government of the Czechoslovak Socialist Republic is the central controlling organ. Objective organs ensuring preparation, drafting, control of the fulfilment of the plan and the controlling organs themselves / i.e. ministries / are subordinate to the government

(ii) The foremost objective organ is the central planning organ. In Czechoslovakia this is the State Planning Commission headed by a chairman, who is always a member of the government. The State Planning Commission has its own staff of experts

(iii) Further organs of government are: the central statistical organ, the ministry of finance / with the entire system of financial and credit organs/, the government

commissions and committees for special problems / e.g. state committee for the development of science and technique, the state wages commission, etc./

(iv) The administration of the activities of the enterprises themselves is carried out by the government through the various ministries or through the regional organs / national committees /.

(v) The basic economic units are the enterprises, the budget organisations and the co-operatives. The state enterprises have relative economic and legal independence in the use of the means entrusted to them. Budget organisations / e.g. education, administration, health service / are directly financed through the state budget. Cooperatives are connected with the planned administration through agreements with the state.

III. System of planning.

(3) In the Czechoslovak Socialist Republic the following system of planning has been established:

a. Annual economic plans through which tasks are set for individual organisations and enterprises. The conception of the development of economy and long-term trends are solved in long-term plans / several-year plans, two- to seven-year plans, usually five-year plans and long-term plans of 15 - 20 years/

b. Plans are divided according to the various organisational levels. They are detailed down to the enterprises by means of indexes expressing the tasks and assigning resources. Details of indexes are determined by the enterprises themselves

c. The methods of drafting the plan are such as to ensure both coordination throughout the whole state as well as the initiative of the enterprises and the direct participation of the working people

d. Reserves are created in the plan to cover unforseen fluctuations.

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UNITED NATIONS CONFERENCE
ON THE APPLICATION OF SCIENCE AND TECHNOLOGY
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Agenda Item : H

Syria

PLANNING IN SYRIA

By Dr. S. MAZLOUM,
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Dr. Y. HELBAOUI,
Director of Economic Analysis

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PLANNING IN SYRIA

DR. S. MAZLOUM, GENERAL SECRETARY TO THE
MINISTRY OF PLANNING
AND
DR. Y. HELBAOUI, DIRECTOR OF ECONOMIC ANALYSIS

SUMMARY

The problem of economic and social development is a particularly pressing one at the present time and is being studied today with an intensity which has never before been manifested in the history of economic thought.

To provide for the serious problem of under-development, the action now being taken is characterised by the firm intention of planners to guide economic and social development in a definite direction and at a quicker rhythm. Nowadays, the State is no longer satisfied with providing a temporary solution to economic difficulties, under the pressure of immediate interests, by sporadic and intermittent measures which constitute isolated reactions to special problems. Henceforward, the action taken to encourage development will be designed within the framework of a comprehensive plan which embraces the entire economic life; based on a study of the structure of the community and the prevailing situations, action will take the form of long-term planning and co-ordinated achievements for determined objectives.

Accordingly, in modern times, development and planning are becoming complementary terms and a country's development cannot be envisaged without recourse to a plan which co-ordinates contemplated methods of action with existing possibilities and which aims to guide and expedite social and economic evolution.

I. General Features of Planning in Syria.

Well aware of this necessity, Syria, which has at its disposal a considerable potential of natural and human resources, has for the past twenty years tried various formulae for organising its resources and for promoting rational exploitation of its wealth by the preparation of comprehensive programmes. It was in this way that a development programme was drawn up in 1955, grouping various basic

projects in the domains of irrigation, transport, power, etc., and financed by a special budget extending over a period of seven years (1955-1962). A little later, in 1959, a special organisation called "the Institution of Economic Development" was created to study and carry out various infrastructural projects; a five-year industrial programme was also prepared by the Ministry of Industry to be carried out jointly by the State and private enterprise. However, it must be recognised that these were only attempts at planning rather than an actual planning programme.

It was only in 1960 that large-scale action was taken for the establishment of a ten-year plan for economic and social development; the plan, established for the period 1960-1970, has the following features:

1) It roughs out a general framework embracing all the economic and social activities of the nation, in the fields of agriculture, industry, transport, power, education, social services, etc. Based on a detailed inventory of natural and human resources, it defines investment programmes, guides production, consumption and distribution of goods produced, and traces the broad outlines of the integral development of the country.

2) The projects covered by the plan, which was designed for a period of ten years, have been divided into two periods of five years, which are in their turn divided into one-year periods. Inside this comprehensive framework, the first five-year plan (1960-1965) set forth definite objectives for each of the sectors of the country's economy and defined projects to be carried out, necessary investments, resources to be used and results to be obtained. The annual plans are formulated in their turn so as to fulfil the proposed objectives, with a flexibility which renders them adaptable to the fluctuations of the prevailing economic situation.

3) The plan brings the nation's entire strength into play: it associates with government action the action taken by private enterprise, so as to benefit from all the vitality and resources displayed by the latter in the economic rise of the country during this last decade.

The plan is devised by mixed committees, grouping both representatives of private enterprise (banks, Chambers of Commerce and Industry, farmers, business men and experts in the various fields) and delegates from the different Ministries and public services. The plan reflects the sum total of the combined efforts of the various sectors of the community, co-ordinated with a

view to achieving the desired objectives in the best possible way.

4) As well as defining investments, the plan provides for the resources necessary to finance them. These resources are made up by the allocation of part of the ordinary income of the State, by the earmarking of available surpluses from autonomous administrations, by other special income and by loans from external sources. Income and expenditure are the subject of a special annual budget, known as the "Development Budget", which is approved and executed under the same conditions as the ordinary national budget.

5) Finally, the Syrian plan is characterised by a considerable decentralisation in its execution; under the supervision of the planning organisation, it allocates the execution of the programmes prepared to the various State departments and to private individuals.

II. Planning Organisation.

The body responsible for preparing the development plan, defining its successive stages and supervising its execution is the Ministry of Planning.

The Ministry acts through the following departments :

1) The Statistics Department, responsible for the collation and presentation of the basic data;

2) The Planning Department, responsible for devising the general framework of the plan, following economic development, analysing situations and studying financial problems;

3) The Department for the Supervision of Programmes, responsible for co-ordinating programmes and supervising their execution; it has at its disposal various specialised units for each sector of activity (irrigation and agriculture, industry, mines and petroleum, transport, social services, etc.);

4) Finally, the Technical and Economic Assistance Department, responsible for co-ordinating the assistance provided by virtue of international or bilateral agreements and for ensuring its distribution among the benefiting services, in accordance with the objectives of the plan and to suit their respective requirements.

Formulation of the Plan:

Formulation of the Plan:

The formulation of the plan as we have reported it is the responsibility of mixed committees for investigation and research, including representatives of the various Ministries and the various sectors of the economy; their task is to define needs, examine available resources and propose investment programmes.

The reports of these committees, when analysed, discussed and co-ordinated, serve to form the framework of the definitive plan; the plan thus established is presented to an Inter-Ministerial Committee formed of nominees of the principal Ministries concerned in economic development, which Committee studies it and finally submits it for the approval of the Legislative Authority.

Within the framework of the comprehensive plan thus defined, annual investment programmes are prepared, in harmony with the means for financing and execution which are available.

Supervision of Execution of the Plan:

So that a check can be kept on the way the plan is being executed, periodical, quarterly and annual reports are submitted to the Ministry of Planning by the various Ministries or Institutions responsible for execution. These reports detail the stage reached with the proposed projects and the progress made, both in the public and private sectors with which they are concerned.

Liaison bureaux, set up within the various Ministries or Institutions, assist the Ministry of Planning in collating this information, in interpreting results obtained and in examining measures proposed to ensure greater efficiency.

III. The Objectives of the Plan.

All modern planning has a triple objective, i.e.: to increase the national income, to regularise its annual rhythm and to ensure its fair distribution.

The Syrian plan does not depart from this general trend, its main objectives being:

- to double the national income during the period 1960-1970,
- to reduce annual fluctuations in this income,
- to ensure its fair distribution among the various sections of the population.

It is necessary to point out in this respect that the Syrian National income is quite small (an average of 150 American Dollars per head in 1960), that it is mainly supplied by the agricultural sector and is, on this account, subject to annual hazards due to climatic fluctuations. It is for this reason that the plan has considered ways to reduce these hazards, by developing irrigation schemes and by reinforcing the contribution from the industrial sector and the social services in the formation of the national income.

Syria's national income, estimated during the year (1959-1960) at 2,400,000,000 Syrian Pounds(1), ought to amount to 4,800,000,000 Syrian Pounds at the end of the tenth year. The average annual increase must therefore be 7.2% and, bearing in mind the increase in population which is 2.4% per annum, the annual increase of income per head must reach 4.8%. In order to arrive at this result, the total national income must increase by 40% during the first five years, i.e.: it must reach £S 3,360,000,000 in 1965.

The investment programme has been drawn up to fulfil this purpose and to ensure that each sector of Syrian economy develops at a balanced rate in harmony with its resources and requirements.

IV. Investment and Finance.

The investments proposed by the Syrian Five-Year Plan amount to £S 2,720,000,000 divided as follows among the various sectors :

	Million Syrian Pounds	
Agriculture and irrigation	1,100	40.4%
Industries, mines and power	509	18.7%
Transport and communications	537	19.7%
Housing	260	9.6%
Social services (education, health, etc.)	192	7.1%
Municipal administration and tourism	32	1.2%
Formation of reserves (raw materials and finished products)	90	3.3%
Total	2,720	100 %

Of this total the share reserved for private enterprise represents £S 1,000,000,000 and that allowed to the State £S 1,720,000,000.

The credits necessary to the public sector for the financing of the Plan are taken from the following sources :

(1) corresponding to $ 632,000,000 at the rate of £.S. 3.8 to the dollar.

	Million Syrian Pounds	
- Contribution from the ordinary National Budget	420	24.4%
- Contribution from Municipal Budgets	110	6.4%
- Contribution from the National Debt Fund	98	5.5%
- Contribution from National Insurance, Pensions and Retirement Funds	131	7.7%
- Income from State Property	26	1.5%
- Income from Public Institutions	145	8.4%
- Income from mines and petroleum	100	6 %
- Foreign loans	640	37.1%
- Miscellaneous incomings	50	3 %
Total	1,720	100 %

V. Conclusion.

Two years have passed since this Plan was put into force. What are its results ?

In spite of the political vicissitudes which have beset Syria during this period, proposed investments (which have already amounted to nearly £S 880,000,000) have, generally speaking, been made to the extent of 81% in private enterprise and 63% in the public sector. Certain projects begun have already been completed and put into service (the draining of the Ghab, the Rastan and Méhardé dams, the building of schools and a network of roads, etc.); others are now in progress (the Port at Tartous, the Lattakia railway and certain oil prospecting schemes) or due for commencement (the Euphrates Dam, harnessing of the Khabour, Damascus airports, etc.). The investments proposed for the third stage of the plan, which covers the period July 1962/December 1963, amount to £S 622,000,000 and are sufficient to permit forging ahead with the proposed plan.

However, it is still too early to give a definitive opinion on the results obtained. But, in the light of the achievements of the past two years, it may be said that the plan constitutes a constructive, major feat in the economic and social development of Syria.

This plan, which was prepared in a relatively short space of time, with few available statistics and limited resources, is a useful experiment with undeniable positive aspects. It has made it possible to obtain a clear and accurate idea of the various facets of the problems of economic and social development and has been an ideal instrument for defining priorities and for tracing the broad outlines of a programme to be carried out in the future.

In this perspective, it can be considered as a departure-point and as a start. The results obtained will serve to introduce the necessary modifications to that great experiment, the Ten-Year Plan, and even to policy and planning itself and its objectives in Syria.

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UNITED NATIONS CONFERENCE
ON THE APPLICATION OF SCIENCE AND TECHNOLOGY
FOR THE BENEFIT OF THE LESS DEVELOPED AREAS

SUMMARY

Agenda Item : H

Syrian Arab Republic

PLANNING IN SYRIA

By Dr. S. MAZLOUM,
Secretary General
of the Ministry of Planning
Dr. Y. HELBAOUI,
Director of Economic Analysis

Papers have been contributed to the United Nations Conference on the Application of Science and Technology for the Benefit of the Less Developed Areas as working papers for that Conference. They are published as presented by the contributors, and the contents and the views expressed are those of the contributors. (See notes overleaf.)

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PLANNING IN SYRIA

by Dr. S. Mazloum , Secretary General of the Ministry of Planning

and Dr. Y. Helbaoui, Director of Economic Analysis.

Summary

- Magnitude and sharpness of the development problem.
- Planning is a choice of action for a harmoneous and rational development of all the economic activities.
- Relationship between development and planning.

I - General characters of the Syrian Planning:

Planning in Syria applied since 1960 presents the following characters :

- Extension of the plan to all economic and social activities of the country.
- Targets were defined for a 10 years period, within two Five Year Plans; each one is consisting of five yearly section.
- Cooperation of the public and the private sector.
- Investments as well as necessary ressources for implementation were defined.
- Large decentralization of implementation.

II - Organization of Planning :

Analysis of the different organisms which direct the elaboration and implementation of the Plan :

- The Ministry of Planing and its four Directorates;
- The mixed committees;
- The inter-ministéral committee for planning.

- The bureaus of liaison with the ministries and public institutions.

III - Targests of the Plan :

The 10 year plan 1960/ 1970 has established the following main targets :

- Doubling National Income within a 10 years period.
- Minimizing the effects of weather's fluctuations on National Income.
- Insuring equitable distribution of National Income among the different classes of the Nation.

Within the framework of these targets, the First Five Year Plan predicts an increase of 40 per cent of National Income (from 2.400 million Syrian Pounds to 3.360 million Syrian Pounds) .

IV - Investments and Financing :

The necessary investments which were available for Plan's implementation, were estimated to be 2.720 million Syrian Pounds; of which 1700 will be financed by the public sector and 1000 by the private sector.

Financing the public sector is insured by available resources from the Government ordinary and extraordinary budgets and by foreign loans.

V - Conclusion :

Two years elapsed, since Syria has put its First Five Year Plan into effects; without being able to give a definitive judgement of the reached targets, however, it could be said that investments which were approved in advance, have been realized in the proportion of 81% by the private sector and 63% by the public sector.

This period consitutes a useful experiment for a new governmental ,planning policy in Syria.

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UNITED NATIONS CONFERENCE
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Agenda Item:H.1

Food and Agriculture Organization

THE IMPACT OF ADVANCES IN STATISTICAL THEORY AND MODERN TECHNOLOGY ON AGRICULTURAL CENSUS METHODOLOGY

By C.P.G.J. SMIT,
Chief Census and Social Statistics Branch,
Statistics Division, F.A.O., Rome

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THE IMPACT OF ADVANCES IN STATISTICAL THEORY AND MODERN TECHNOLOGY ON AGRICULTURAL CENSUS METHODOLOGY

by

C.P.G.J. Smit, Chief Census and Social Statistics Branch, Statistics Division, FAO, Rome

1. Basic features of modern needs for statistical data

Statistical data on agricultural structure i.e. on number, distribution in space and principal characteristics of agricultural holdings, are increasingly required in less developed as well as in more advanced countries. Such information is collected in general by means of an agricultural census.

Most developing countries are at present either implementing plans for economic and social development or are in the process of formulating such plans. Agricultural censuses of a reasonable quality form one of the important pre-requisites for formulating development plans, for their implementation and for evaluation of progress in their execution. However, a typical attribute of less developed countries is paucity of statistical data. This shortage is mainly due to lack of funds, of trained personnel and of other resources.

Under these conditions it would be hardly possible to meet the increased needs if the development of statistical theory had not shown the way to collect sufficiently reliable data at the expense of only a fraction of the resources needed for carrying out a traditional agricultural census. Census taking has particularly benefitted from the advances of sampling theory and its applications.

National totals on agricultural structure and totals for large subdivisions of a country need no longer to be obtained by complete enumeration of all agricultural holdings in the country but can be estimated with a known degree of accuracy from data collected in a relatively small sample of holdings. Thus the use of sampling methods has brought the agricultural census within reach of many developing countries.

In advanced countries agricultural policies, international cooperation and the movement for economic integration require more data on agricultural structure and in greater detail than were collected before. These countries usually take their agricultural censuses by complete enumeration. Collection of all required data from all farms in the country would in many cases overburden the agricultural census questionnaires, add to the cost of the fieldwork, require a much larger number of trained enumerators and increase considerably the processing work. A growing number of countries therefore has broadened the scope of their agricultural censuses by collecting additional information from a sample of holdings only.

The increased volume of data required by many countries, at the same time, is required earlier. The introduction of electronic computers for processing agricultural censuses is bringing about substantial savings in processing time, while at the same time more complex and more comprehensive statistics can be tabulated and processing costs may be reduced.

2. Needs of developing countries

In early stages of economic growth development plans may consist only of a bundle of physical projects to be carried out during a certain period. This may be a number of irrigation wells to be dug, the quantities of improved seeds or fertilizers to be distributed or the area of land to be reclaimed during the period of the plan, together with estimates of the materials and inputs required and the estimated expenditure. Such planning takes place mainly at the national level. No too much attention is given to the mechanism of the plan as a whole. Some estimates at the national level may be sufficient in all phases of the plan. The information required at this stage can be collected by sampling and will be of rather simple character as it is limited to some basic items like land utilization, crop acreages and numbers of livestock. The data are used for making rough estimates of the total requirements as well as for a general evaluation of the effects of the plan.

A further stage of planning includes the assessment of requirements in capital, managerial and technical skills, in capital equipment and requisites and in other scarce resources which will be needed to achieve certain production goals. It includes also the establishment of priorities for scarce resources of all kinds. In using this kind of planning much more attention is focussed on the mechanism of the plan and its implementation as a whole. The targets of production and inputs are generally established for relatively large areas of the country, and the programs implemented on the same basis. The basic information in these cases should be available for the segments of the country for which distinct proposals have been made in the plan. In addition, much more detailed information is required for assessing the factors influencing production such as human, animal and mechanical power, fertilizers, irrigation facilities. If the segments are sufficiently large the data can again be supplied by a sample census.

Only at the most intensive stage of planning when targets are being set for small units, as for instance, villages, or even for individual agricultural holdings sampling cannot supply the information required and complete enumeration of all holdings in the country is necessary.

The application of sampling has furthermore enabled countries to collect information on agricultural structure under very adverse conditions. In certain parts of the world e.g. in Africa, farmers have not sufficient quantitative notions to supply statistical information by interview. In other countries, e.g. in several Near East countries, farmers are able to express quantities relating to their agricultural operations only in ambiguous units. They may be able to give the area of land in quantities of seed sown or in number of days plowing. In all these cases unambiguous information on agricultural structure can be collected only by objective measurements and counts. The cost of carrying out these objective measurements in all agricultural holdings of a country and the manpower requirements would be prohibitive even in advanced countries. The application of appropriate sampling procedures has made it possible to carry out objective measurements and counts in a limited number of holdings and thus obtain estimates for all the holdings in the country.

3. Broadening the scope of the census

The increased requirements of many countries for more and more complex data on agricultural structure could also be met on reasonable terms by the application of modern sampling methods. While the need for more data could have been satisfied by complete enumeration at the sacrifice of substantially increased costs and time, the more complicated information required in many modern agricultural censuses could be collected in most cases by application of sampling only. Several items included cannot be assessed by complete enumeration with a sufficient degree of accuracy. Examples of such items are production of crops and particularly of commodities of animal origin such as milk, eggs, meat, information on investments in agriculture.

One of the main problems in using sampling for broadening the scope of the census is the reconciliation of the estimates obtained from the sample and the results of the complete enumeration part of the census. Sample estimates are subject to sampling errors and although they may be to a lesser degree subject to non-sampling errors than the results of complete enumeration the outcome is that sample estimates of the same item are generally different from results of complete enumeration. This may lead to inconsistencies in the interrelationships between data from the two sources and may be confusing to the users.

4. Speed requirements and advance estimates

The processing of an agricultural census is a major undertaking which even under favourable circumstances will take one to two years to complete. In most cases it will take several years before the full results of the census will be available. While such delays may not be too serious for scientific studies concerned with long-term trends, for policy decisions up-to-date information is required on an increasing scale. The application of sampling to processing has greatly helped to meet these requirements. Advance results of sufficient accuracy can be prepared by tabulation of the returns from a relatively small sample of agricultural holdings.

The basic operations of processing a census are simple, and therefore often neglected or underrated. In view of large amount of data to be processed in censuses mechanical means have been introduced to speed up the processing. Many statistical offices are today equipped with punch-card machines which make it possible to cope with the large amount of census data. The most powerful tools for speeding up the processing operations of censuses are electronic computers. Computers are used already by a few national statistical offices, mainly in the more developed countries, because they found it impossible to cope with the increasing amount of processing work. Electronic computers can substitute a large part of the conventional punch-card machines. They are speeding up the mechanical part of the processing considerably.

There is one very important although less publicized possibility offered by computers. Formerly the questionnaires had to undergo a time consuming process of manual checking and editing before the preparation of punched cards. Now all these checks including those on arithmetical and other relations can be made by the computer. The computer indicates the wrong or improbable

relations which then have to be corrected manually. It is obvious that this method of mechanical editing by computers will not only increase the speed of processing but also the accuracy of the tabulations.

Furthermore, the computer is also able to correct minor errors automatically, if these corrections can be made according to some rules known from experience. The manual corrections can be reduced in this way to errors to be corrected by reference to the questionnaires.

The present status of the technical development of processing of statistical data has not yet decreased the time needed for the preparation of the input data. Punching and verifying of cards or of paper tapes still have to be prepared in the conventional way. The preparation of the data for the computers, in general the punching and verifying of cards, remains the main bottleneck for the processing of census data.

Several types of machines have been developed for automatically reading documents. Still further experimentation is needed before these machines can be used for the processing of census data in all parts of the world. The most interesting reading machine for statistical work has been developed and used by the US Bureau of the Census (FOSDIC, Film Optical Sensing Device for Input to Computers).

5. Broadening tabulation programs

Sample tabulation is being used not only for the preparation of advance estimates but also for other purposes. First all additional tabulations may be needed which would be too costly or too time consuming to prepare on the basis of complete tabulation. If such additional data are not required for small administrative units sample tabulation may be the answer to the problem.

In some recent censuses sampling has been used also for the preparation of cross tabulations. The necessary caution has to be exercised in this case because the number of units in each cell of extensive cross-tabulation may become too small for obtaining sufficiently reliable results which may be subject to high sampling errors.

Sample tabulation is also used as a last resource for obtaining results from complete enumeration in cases where resources, staff or equipment have proved to be inadequate for carrying out the full tabulation program. Processing requirements tend to be underestimated in planning the census and this case may be more frequent than generally is assumed.

The use of electronic computers has opened further possibilities for broadening the tabulation program. Because the speed of electronic computers is considerably higher than that of other processing tools, it is obvious that during the same period of time more tables can be prepared by computers than by other machines. Additional tables may be prepared for additional subgroups or additional territorial subunits. It is especially convenient to prepare cross-tabulations with computers. All items of one unit, for example, an agricultural holding, can be stored in the computer and can be related to each other.

Moreover, while preparing the usual census tables the computer, without using practically any additional time, may calculate derived figures like means, percentages, standard deviations, index numbers, etc.

6. Improved accuracy

Modern sampling techniques have also contributed to increasing the accuracy of agricultural census data. This is being done at various stages of the census work. Firstly questionnaires and enumeration procedures are being tested in a sample of holdings. This will improve the formulation of the questionnaire and indicate the best procedures to be used in the actual census. The development of sampling theory and practice has also permitted the building of checking devices into the census. The data from all agricultural holdings collected by the interview method are then checked by objective measurements and counts in a sample of holdings. If the census is already carried out in a large sample the checking may take place in a sub-sample.

The checking operations are carried by the enumerators of the complete census or by special investigators. In the latter case investigators can be used who are more skilled and better trained than the general enumerators. So far the use of quality checks built into the agricultural census itself has found limited applications. One of the reasons may be that during a complete enumeration all energy of the census takers has to be concentrated on the main job in hand and that it is difficult to give at the same time adequate attention to the quality checks. Preference has been given to checking the census returns by post-enumeration checks, undertaken when the main enumeration work was over. The purpose of these checks is twofold. First of all they give an indication of the degree of accuracy of the data collected in the main enumeration. This information naturally is of particular importance for all users of the data. The post enumeration checks also supply indication of the shortcomings of the enumeration methods, which information in its turn can be used for improvement of further censuses and surveys.

The introduction of sampling methods furthermore has led to substantial savings on the cost of controlling the quality of processing work of censuses at its various stages. It must be recognized however that in agricultural censuses quality control of processing is much more complicated than in population censuses. The latter deals with units (individuals only) while agricultural censuses largely are concerned with quantities. Nevertheless, sampling can be applied also in these censuses successfully for various purposes as for instance detecting at an early stage of the processing operators whose performance is inadequate. It is however clear that the principles of industrial quality control will have to be substantially modified before they can be used effectively in the control of the quality of processing agricultural censuses.

7. Rationalisation

Testing of census questionnaires and enumeration procedures by sampling methods has contributed not only to improving the accuracy of census results but also has been conducive to a more rational census planning.

Agricultural censuses in most countries are being taken at long intervals. Experience from one census may have been partly lost or may have become obsolete by the time the next census is due. Countries taking the census for the first time could not rely at all on national experience. In all these cases a certain amount of experimentation needs to be carried out before countries embark on the major census operation. In the past census plans were mostly based on guess work. Any pre-testing was done on purposively selected samples, and the information thus obtained was mostly of a qualitative type or gave only rough quantitative indications.

The introduction of random sampling methods in pre-testing census questionnaires and procedures has provided census designers with a tool for making close estimate of the various quantitative data required for a rational planning of the census operations.

While the development of statistical theory has had a considerable impact on the field work of agricultural censuses, the development of electronic computers is on the way to revolutionising the processing of census data. The computers offer not only high speed for sorting, counting, adding, etc., but also new storage techniques for statistical data by using magnetic tapes, discs, drums, etc. Computers are able to perform quite different operations without manual interruption. These operations had to be performed previously by different types of punch-card machines which required frequent manual interventions. Because of this the use of electronic computers in processing census data is introducing a completely new concept of census processing.

Those planning, directing and executing the census need therefore to be acquainted with the principal working techniques of electronic computers. For instance, questionnaire design and punch-card design have to be adapted to computer methods, otherwise computer time will be wasted. It is also important that the officers in charge of the computer are associated with planning and organization of the census from the earliest stages. In a way, electronic computers represent the centre of an automatic factory and require thus that all events are programmed. Improvisation which plays an important role in manual processing and to a certain extent is still practised when using punch-card machines, cannot be permitted at all in using electronic computers. Computer processing of agricultural census-returns thus tends to rationalize the whole process of census taking.

8. Logistic problems arising from technological development

When in the last five years electronic computers came on the market, one part of the statistical offices, mainly in the more developed countries, were already equipped with punch-card machines, whereas the other part, mainly in the less developed countries, had no punch-card equipment available. Because the computers usable for statistical purposes are using punched cards as input media, it was natural that at first only those offices planned to install and installed computers which had already gained a large experience in the handling of punch-cards. Nevertheless, even these offices needed a careful preparation for the setting up of the computers, in most cases requiring several years. The preparation includes construction or reconstruction of a building for the installation, training of programmers and operators, reorganization of the work flow, preparation of machine programs, checking the machine programs on other computer installations.

At present computers are available under such terms that it is economically feasible for many statistical offices having no punch-card installation to instal directly an electronic computer without going first through the full experience of using a punch-card installation. So far as is known no statistical office has gone this way as yet. The main problem seems to be that the difficulties to be encountered in installing a computer in statistical offices with no previous experience in punch-card handling are unknown. Apparently there would be a large scope for international assistance in this field. Past international assistance in data processing by UN and FAO has been concentrated on manual, semi-manual and punch-card methods.

A handbook on Data Processing Methods has been published jointly by the two Organizations and a training centre on processing of agricultural census data has been held for the Near East countries which were particularly in need of such assistance. Only a pilot project for transferred processing in which the Libyan agricultural census data were processed by an electronic computer in Germany was concerned with the processing techniques by computers. This project was organized by FAO, because more than 20 countries from all over the world have shown interest in having their census data processed by computers in another country than that where the data had been collected. Also in this case no experience was available for dealing with the technical and logistic problems involved in such an undertaking.

The pilot project was carried out to fill in these gaps in knowledge. FAO has explored the facilities for the use of electronic computers for such a pilot project. The United Kingdom of Libya offered to provide the data of their 1960 agricultural census for processing under FAO supervision. The Provisional International Computation Centre, located in Rome, made arrangements with the "Institut für Praktische Mathematik" at Darmstadt for the necessary computer time and the technical services of the computer staff. The Federal Office of Statistics, Wiesbaden, Federal Republic of Germany, undertook the punching and verification of Libyan data and gave other assistance. FAO helped to plan and organize the work and provided the necessary supervision and control of the project. As result of this cooperation the Government of Libya received the complete final results of its agricultural census, covering 150 000 agricultural holdings early in 1962. This is a remarkable achievement for a country which never took an agricultural census before.

The significance of the project surpassed its national importance by the technical and logistic data it yielded for application in other similar cases. The main findings have been published in a technical report by the International Computation Centre, Rome. 1/

1/ Dilwali, C.K. Report on the Pilot Project for Central Tabulation of the Agricultural Census Data for the United Kingdom of Libya by Electronic Computers, Rome (1962).

The project has given hope that the development in electronic computation may be used to a much greater advantage in ensuring speedy tabulation of the 1970 censuses of agriculture in several less developed countries. International assistance in this field might well take the form of organizing regional processing centres provided with electronic computers. It is true that many developed countries are still experiencing difficulties in tabulating their own census data using such computers, this is due to a number of reasons. The number of items included in their questionnaires is very large and they have a heavy program of tabulation and cross-tabulations to carry out. By comparison the number of items and the program of tabulation in the censuses of most developing countries is very modest. Secondly, although the use of electronic computers for processing mass statistical data is still at an exploratory stage, big advances are expected to take place by the time the 1970 census is taken. Thirdly, even if there are no savings in cost there undoubtedly will be very substantial savings in time. These reasons lead to a belief that modern technology can be effectively used in speedy tabulation and publication of the 1970 censuses of agriculture.

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FOR THE BENEFIT OF THE LESS DEVELOPED AREAS

SUMMARY

Agenda Item: H.1

Food and Agriculture Organization

THE IMPACT OF ADVANCES IN STATISTICAL THEORY AND MODERN TECHNOLOGY ON AGRICULTURAL CENSUS METHODOLOGY

By C.P.G.J. SMIT,
Chief Census and Social Statistics Branch,
Statistics Division, F.A.O., Rome

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THE IMPACT OF ADVANCES IN STATISTICAL THEORY AND MODERN TECHNOLOGY ON AGRICULTURAL CENSUS METHODOLOGY

by

C.P.G.J. Smit, Chief Census and Social Statistics Branch, Statistics Division, FAO, Rome

1. Basic features of modern needs for statistical data

Statistical data on agricultural structure are increasingly required in less developed as well as in advanced countries. Such information is collected in general by means of an agricultural census.

Because of lack of funds, trained personnel, and other resources developing countries would not be able to meet the increased needs if statistical theory had not shown the way to collect sufficiently reliable data by the application of sampling methods. In advanced countries, taking agricultural census by complete enumeration, the need for more data has been met by broadening the scope of the census through sampling.

The introduction of electronic computers has brought about substantial savings in processing time and costs while more complex statistics can be tabulated at the same time.

2. Needs of developing countries

Statistical requirements of economic development plans depend on the kind of planning used. At early and intermediate stages of economic growth where only national targets or targets for large areas are being established the data needed can be supplied by a sample census. Complete enumeration is only required at the most intensive stage of planning when targets are set for small units.

The application of sampling has made possible also the introduction of objective measurements and counts, which are indispensable when farmers are not able to supply the information needed by interviews.

3. Broadening the scope of the census

Requirements for more data could be met by the application of sampling methods. These methods are particularly useful for the collection of statistics which are too complex for complete enumeration. The problem of reconciliation of sample estimates and results of complete enumeration has not yet been fully solved.

4. Speed requirements and advance estimates

Policy decisions require up-to-date information which need can be satisfied in most cases by advance tabulation of samples.

Electronic computers are the most powerful tools among the mechanical means for speeding up the processing of censuses. They also make it possible to reduce manual checking and editing and to correct automatically minor errors.

The present status of technical development has not yet decreased the time needed for preparation of input data. Several types of machines are being developed for this purpose.

5. Broadening the tabulation program

Sample tabulations are not only used for supplying advance information but also for preparing additional tabulations, cross tabulations and tabulations in case of inadequate resources.

The use of electronic computers has opened further possibilities for broadening the tabulation program by preparing during the preparation of basic tables additional tables for sub-groups or territorial subunits. Derived figures can be calculated at the same time.

6. Improved accuracy

Modern sampling methods have contributed also to improving the accuracy of agricultural data. They have been applied for this purpose in pre-testing, and built-in and post-enumeration checks of the census. Savings on processing costs have been achieved by application of sampling to the control of the quality of processing.

7. Rationalisation

Pre-testing of census questionnaires and enumeration procedures has been conducive to a more rational census planning. The introduction of random sampling has provided census designers with the quantitative data required for this purpose.

The development of electronic computers is on the way to revolutionize the processing of census data. Computers perform quite different operations without manual interruption. The new storage techniques open complete new possibilities of studying interrelationships. Computers have introduced a complete new concept of census processing. Improvisation is not permitted in using these machines and thus tends to rationalize the whole process of census taking.

8. Logistic problems arising from technological development

Setting-up of computers for census processing needs careful preparation requiring several years and includes construction or reconstruction of a building, training of programmers and operators, reorganization of the work flow, preparation and checking of machine programs.

The problems of installing computers in statistical offices with no previous punch-card experience are unknown. There would be large scope for international assistance so as to bring the advantages of electronic processing of agricultural censuses to developing countries. A pilot project has been carried out of transferred data processing. The census questionnaires of Libya were processed on electronic computers in Germany. The project has given hope that the development in electronic computation might be used to a much greater advantage in ensuring speedy tabulation of the 1970 censuses of agriculture in less developed countries. International assistance might well take the form of organizing regional processing centres provided with electronic computers.

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CONFÉRENCE DES NATIONS UNIES
SUR L'APPLICATION DE LA SCIENCE ET DE LA TECHNIQUE
DANS L'INTÉRÊT DES RÉGIONS PEU DÉVELOPPÉES

Point de l'ordre du jour : H.1

France

LA PREVISION DE L'EMPLOI EN FRANCE

Par Jean FOURASTIE

Les mémoires rédigés à l'intention de la Conférence des Nations Unies sur l'application de la science et de la technique dans l'intérêt des régions peu développées sont des documents de travail. Ils sont publiés tels qu'ils ont été présentés et les assertions et opinions qu'ils contiennent sont celles de leurs auteurs.

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LA PREVISION DE L'EMPLOI EN FRANCE

par Jean FOURASTIE

Quinze années d'expérience de prévision economique et de planification ont fait de la prévision de l'emploi l'un des éléments majeurs des travaux du Commissariat général du Plan.

D'une part, la qualification de la main-d'oeuvre, son niveau de culture intellectuelle, le degré de ses connaissances scientifiques, techniques et générales, commande la productivité du travail national, et par suite détermine la puissance économique de la Nation ; d'autre part, les profonds changements de structure qu'implique le progrès économique engendrent d'incessants flux de main-d'oeuvre d'un secteur d'activité à l'autre et, à l'intérieur des secteurs, d'un métier à d'autres. Si ces flux ne sont pas prévus à l'avance et facilités par des orientations préalables, la viscosité naturelle à la population active retarde ou même paralyse les mouvements indispensables : il en résulte des blocages de l'évolution, des crises qui finalement, non seulement retardent ou même arrêtent la croissance, mais encore développent le chômage et entraînent de grandes souffrances sociales.

I - Généralités sur le problème de la prévision de l'emploi.

L'augmentation de la productivité, c'est-à-dire l'augmentation du volume de la production par travailleur ou par unité de temps, entraîne une augmentation des salaires et des revenus. Or, toute variation des revenus se traduit par une modification de la consommation. A cet effet direct et général s'ajoute souvent un effet de réduction relative du coût de production et du prix de vente des produits à grand progrès de productivité. Ainsi le progrès technique a, directement et indirectement, de puissants effets sur la consommation.

Les études sur la consommation sont encore très récentes et assez peu nombreuses. Elles permettent néanmoins de connaître relativement bien aujourd'hui les différences de structure de la consommation selon le niveau des revenus ; l'évolution de la consommation est également soumise à des facteurs plus subjectifs, psychologiques ou sociologiques, mais sur lesquels nous ne nous attarderons pas ici, d'autant plus que le poids de leur influence est secondaire par rapport à celui du premier phénomène évoqué plus haut.

L'équilibre économique se ramène finalement à un équilibre entre la production et la consommation. Or, ainsi que nous venons de le voir, ces grandeurs sont toutes deux soumises - mais plus ou moins directement et indépendamment l'une de l'autre - à l'influence du progrès technique. La productivité n'agit pas de la même façon, ni selon le même rythme, sur chacun des secteurs de la production, et de même l'élévation du pouvoir d'achat ne favorise ou ne défavorise pas de la même manière, ni selon le même rythme, chacun des secteurs de la consommation. Il en résulte normalement des distorsions importantes, pour un produit déterminé, entre les tendances de la production modifiée par le progrès technique et les tendances de la consommation modifiée par l'élévation du niveau de vie. Il faut donc sans cesse réorienter la production en fonction des demandes de la consommation, et cela ne peut se faire que si la main-d'oeuvre se déplace. Il en résulte cette réalité fondamentale : le plein emploi en période de croissance économique est incompatible avec la stabilité de l'emploi.

Pour chaque produit, ou pour chaque secteur d'activité, l'évolution résultant de la composition de ces deux phénomènes (consommation et productivité) est originale (c'est-à-dire spécifique, propre à ce produit, à ce secteur). On peut toutefois, selon un procédé maintenant habituel, faciliter les études et les exposés en se référant aux quatre grands types de comportement suivants, qui se distinguent selon les effets relatifs de la productivité et de la consommation sur les produits :

- Un premier secteur regroupe les branches assez fortement influencées par l'accroissement de la productivité, mais dont la demande est assez limitée : les effectifs qui y sont employés doivent donc diminuer ;

- Un deuxième groupe rassemble les activités pour lesquelles la production et la consommation augmentent sensiblement suivant le même rythme, ce qui permet aux effectifs de rester pratiquement stationnaires. Ce deuxième groupe est le seul des trois qui comporte la stabilité de l'emploi ; mais on voit clairement que cette stabilité n'est qu'un cas limite qui ne se réalise dans le réel que d'une manière précaire, puisque la stabilité absolue de l'emploi impliquerait un parallélisme également absolu entre la croissance de la productivité et la croissance de la consommation ;

- Un troisième groupe comprend les activités où le progrès technique est faible et, par suite, les coûts relatifs croissants, mais où la consommation n'a pas l'élasticité nécessaire pour suivre ces coûts croissants, de sorte que ces activités se réduisent et que l'emploi disparaît (services domestiques, par exemple) ;

- Enfin, un dernier groupe contient les activités sur lesquelles le progrès technique a relativement peu d'influence, mais où la demande est croissante et ne paraît pas limitée; ceci entraîne un fort développement des effectifs.

Bien entendu, ce schéma est très fruste et ne rend pas compte de toutes les variétés d'évolution qui sont celles de la réalité ; il n'a que la valeur d'une typologie à laquelle il est commode de se référer pour décrire la réalité complexe. Certaines activités peuvent passer au cours du temps d'un type de comportement à l'autre. En outre, à l'intérieur de chacun des grands groupes de comportement ainsi définis, le rythme d'évolution peut varier suivant les diverses activités. Pour une activité donnée, dont l'évolution tendancielle est sensiblement la même pour la plupart des pays, le rythme peut également varier d'un pays à l'autre, certains bénéficiant des expériences et des progrès réalisés par des pays techniquement plus en avance. Toutefois, ce schéma a l'avantage de mettre à jour le mécanisme qui entre en jeu.

II - Les techniques de prévision.

a) Prévisions quantitatives globales.

Elles sont relativement simples. La population qui sera en âge de travailler d'ici dix à quinze ans est déjà née ; les prévisions démographiques par âge sont donc assez sûres. Il suffit ensuite d'appliquer un taux d'activité à ces perspectives de population par âge. Ces taux sont pratiquement constants entre 25 et 60 ans ; on suppose donc qu'ils se maintiendront ainsi. En ce qui concerne les moins de 25 ans, et les plus de 60 ans, certaines hypothèses sont nécessaires pour tenir compte de l'allongement de la scolarité, d'une part, de la possibilité d'une mise à la retraite plus précoce, d'autre part. Par ailleurs, les hypothèses d'immigration sont fonction de l'équilibre à réaliser entre les disponibilités et les besoins en main-d'oeuvre.

L'ordre de grandeur des erreurs faites sur ces évaluations de main-d'oeuvre globale reste certainement inférieur à celui que l'on est bien obligé d'accepter sur l'évaluation des phénomènes économiques, ainsi que le feront apparaître les prévisions qualitatives.

b) Prévisions qualitatives par secteur d'activité.

Quelle que soit la méthode utilisée, on peut poser comme principe de la prévision qu'il ne peut y avoir de prévision de l'emploi sans prévision économique. On distingue, selon le processus utilisé, deux grands groupes de méthodes : les méthodes analytiques et les méthodes globales.

1 - Méthodes analytiques de prévision.

Le principe de la méthode analytique est d'étudier séparément l'évolution de chacun des facteurs influant sur la production : productivité, consommation, commerce extérieur, etc. La combinaison de tous ces facteurs permet ensuite de déterminer l'emploi souhaitable dans chaque secteur d'activité.

La prévision se fait en France en deux étapes, et selon deux méthodes assez différentes :

- les objectifs généraux à atteindre sont d'abord fixés par une méthode assez globale (l'activité économique est divisée en sept branches seulement) ;
- une méthode analytique permet ensuite, par l'étude de chaque secteur, de donner des prévisions plus détaillées.

- Méthode globale déterminant le cadre de l'évolution :

Il s'agit d'abord d'un travail de comptabilité nationale ayant pour but de déterminer le revenu national, la production nationale et la demande finale. Ce travail se fait en trois temps :

1°) Détermination de la variation de la population totale et de la population active ;

2°) Répartition de la population active par grand secteur d'activité : Agriculture, Industrie, Transports, Commerce, Services, Services domestiques, Administration. Cette estimation est faite globalement par prolongation des tendances observées dans le passé ou selon les tendances de pays techniquement plus avancés ;

3°) Prévision d'évolution du Produit intérieur. La contribution de chacun des secteurs au produit intérieur brut est estimée en multipliant les effectifs au travail par leur productivité, la productivité étant ici comprise dans le sens de valeur ajoutée par travailleur et par an.

De la valeur de la production par secteur ainsi évaluée on déduit, par sommation, la valeur du Produit National ; puis la valeur de la consommation des ménages est obtenue par différence entre le produit intérieur et les autres dépenses : administrations, investissements et solde du commerce extérieur.

La demande finale des ménages estimée est ensuite décomposée, par nature de produit, en dix postes. Cette décomposition est obtenue en appliquant des coefficients d'élasticité, exprimant la variation relative de la demande des divers biens et services en fonction de celle de la dépense globale de consommation. Ces élasticités sont d'ailleurs variables selon le groupe socio-professionnel des consommateurs, dont il faut donc tenir compte (exploitants et ouvriers agricoles; travailleurs indépendants ; cadres supérieurs ; autres salariés ; non actifs).

Les tableaux d'échange inter-industriels permettent de passer de la demande finale par produit à la production nécessaire dans chaque secteur. Enfin, il faut vérifier que l'évolution des productions ainsi évaluées est cohérente avec celle des valeurs ajoutées (ou produit intérieur brut) par secteur. S'il n'y a pas de cohérence, il y a lieu de revenir sur les hypothèses de départ, relatives à la répartition de la population active selon les secteurs. Ainsi, par approximations successives, on parvient à une certaine évaluation de la main-d'oeuvre et de la production par secteur.

- Méthode d'étude analytique par secteur : Ces perspectives de production par secteur servent ensuite d'objectifs aux études analytiques des Commissions du Plan spécialisées dans l'étude de chacun des secteurs.

Il ne s'agit pas d'extrapoler les tendances de l'emploi, mais d'étudier les besoins de main-d'oeuvre en fonction du progrès technique et d'un accroissement donné de la production. Les documents dont disposent les Commissions pour effectuer ce travail sont assez restreints ; ils concernent l'évolution de la production et de l'emploi depuis quelques années ; la durée du travail et l'utilisation des capacités actuelles de production ; des indications sur les conséquences possibles sur le niveau de l'emploi du progrès technique dans leur secteur. A partir de cela, les Commissions doivent élaborer des programmes concernant l'accroissement de la capacité de production, la productivité, l'emploi, les moyens de financement, etc... Elles sont invitées à répondre à des questions sans cesse plus précises relatives à la qualification, à la fonction, au niveau culturel de la main-d'oeuvre.

Pour certains secteurs, tels que l'Agriculture et le Commerce, où les mouvements de main-d'oeuvre sont liés d'une façon moins étroite aux fluctuations de la production, les méthodes employées sont différentes. En ce qui concerne l'Agriculture, les chiffres résultant de la prolongation des tendances antérieurement observées ont ensuite été modifiés pour tenir compte d'éléments nouveaux, tels que la prolongation de la scolarité, la mise en place de systèmes de retraite agricole. On a ainsi été amené à un chiffre annuel moyen de diminution de la population active agricole.

Il apparaît tout de suite que ces méthodes analytiques de prévision se heurtent à un certain nombre de difficultés : les premières sont relatives à l'analyse des perspectives d'évolution de la demande et de la production, les autres aux hypothèses faites sur l'évolution de la productivité. L'évolution de la productivité dépend non seulement des progrès techniques, mais également de données structurelles telles que la dimension des entreprises par exemple.

2 - Méthodes globales de prévision.

La répartition de l'emploi par secteur peut aussi être prévue selon des méthodes relativement plus simples et plus globales, soit par la prolongation des tendances anciennes de l'évolution de l'emploi dans chaque branche, soit en faisant des hypothèses sur l'évolution de certains rapports tels que :

$$\frac{\text{emploi}}{\text{production}}, \quad \frac{\text{emploi}}{\text{Revenu National}}, \text{ ou tout autre rapport.}$$

Etant donné les transformations complexes qui provoquent les variations du produit brut global et celles de l'emploi total, la découverte d'un rapport aussi simple peut sembler suffisamment étrange pour être jugée tout à fait fortuite, et donc impropre à l'établissement des prévisions. Toutefois, ce n'est certes pas le seul cas où se manifestent entre grandeurs macro-économiques globales, en des laps de temps limités, des rapports simples et relativement stables ; cela provient précisément du nombre et de la complexité des facteurs en présence dans les transformations économiques, dont on saisit finalement l'effet global par l'intermédiaire des variations des grandeurs globales, et par le fait que ces transformations, tout en tirant leur origine de facteurs en évolution rapide, s'établissent au sein d'un système d'institutions, de rapports, de valeurs, capable seulement d'une évolution relativement lente. Il suffit de penser au processus par lequel des travailleurs passent d'un secteur en stagnation à un secteur en expansion ; même si, d'un moment à l'autre, les stimulations économiques à cette migration se renforçaient extraordinairement, les déplacements ne pourraient accroître leur rythme au delà des limites permises par certaines traditions, par certains préjugés, par certaines inclinations, par certains moyens d'information et de requalification, etc... qui ne peuvent se modifier rapidement.

On peut donc supposer que les élasticités calculées par interpolation au cours de la période 1957-1962 - par exemple - mises à part les réserves habituelles sur la validité et sur la possibilité de comparaison du matériel statistique disponible - se maintiendront au cours d'un avenir relativement court. Quant au produit brut, on peut supposer aussi, à défaut de prévisions ou d'évaluations spécifiques, le maintien dans chaque pays du taux moyen d'accroissement de la période antérieure.

On peut aussi, grâce à ces hypothèses, évaluer le niveau global de l'emploi et sa répartition en grands secteurs pour un avenir relativement proche (1965 ou 1960 par exemple).

Il faut, en terminant, insister sur le fait que le commerce extérieur est un élément perturbateur très important dans le processus de prévision de l'emploi. S'il s'agit d'une nation dont le territoire géographique est peu étendu, le volume du commerce extérieur, au moins pour certains produits, devient prépondérant par rapport à la consommation intérieure. Dans ce cas, la prévision du volume du commerce extérieur devient évidemment primordiale ; mais elle n'en reste pas moins pratiquement très aléatoire. La seule solution valable scientifiquement dans ce cas est de ne pratiquer la prévision que dans le cadre d'un groupe de nations associées dans leur oeuvre de prévision économique (1).

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(1) Une étude plus détaillée sur les méthodes françaises de prévision de l'emploi a été donnée par M. FOURASTIE à la Section d'Etude Internationale sur les techniques de la prévision de l'emploi, organisée par l'O.C.D.E. du 4 au 7 juin 1962.
On pourra se reporter en outre aux articles publiés par l'auteur dans divers numéros de la revue Population depuis 1958, et au compte-rendu de la Conférence "Progrès technique et Marché Commun", groupe de travail "Emploi", organisée par la C.E.E. à Bruxelles.

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FOR THE BENEFIT OF THE LESS DEVELOPED AREAS

SUMMARY

Agenda Item : H.1

France

THE FORECAST FOR EMPLOYMENT IN FRANCE

By Jean FOURASTIE

Papers have been contributed to the United Nations Conference on the Application of Science and Technology for the Benefit of the Less Developed Areas as working papers for that Conference. They are published as presented by the contributors, and the contents and the views expressed are those of the contributors. (See notes overleaf.)

NOTES

1. Papers selected for inclusion in General Sessions will be available at the Conference in the following official languages of the United Nations: English, French, Russian and Spanish.

2. Papers selected for inclusion in Specialized Sessions will be available at the Conference in only one of the above official languages.

3. Summaries of all papers, as submitted by contributors, will be available at the Conference in the following official languages of the United Nations: English, French, Russian and Spanish.

4. Papers and summaries will not be available for general distribution in advance of the Conference. They will be published in advance in limited quantities only for the use of delegations of participating governments and of other authorized participants. Post-Conference publication and general distribution of the Conference Proceedings will follow United Nations practices as laid down by the United Nations Publications Board.

THE FORECAST FOR EMPLOYMENT IN FRANCE.

by Jean FOURASTIE.

Introduction

Necessity for close liaison between planning being done at the national level and employment forecasting.

First Part

General comments on the problem of forecasting employment.

Economic stability is in the end, a balance between production and consumption, both influenced by technical progress which distorts them. These distortions can only be corrected by a shift in manpower. Therefore, during a period of economic growth, there is incompatibility between full employment and stable employment.

An attempt at a classification of products and branches according to the effects brought about by variations in productivity and consumption.

Second Part

Forecasting techniques.

a) Quantitative global forecasts
b) Qualitative forecasts by area of activity

1) Analytical methods of forecasting. The principle is to study separately the evolution of each one of the factors which influence production (productivity, consumption, external trade, etc.); the combination of all these factors then makes it possible to determine the desirable type of employment in each area of activity.

2) Global methods of forecasting, based on either the prolongation of earlier employment trends in each branch or on hypotheses concerning the evolution of certain related factors (employment/production, employment/national income, etc.)

In conclusion, external trade as an important source of risks involved in employment forecasting is stressed.

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Point de l'ordre du jour : H.1

France

RAPPORTS ENTRE PROGRAMMES D'HABITATION ET PLANS DE DEVELOPPEMENT ECONOMIQUE ET SOCIAL DANS LES PAYS EN VOIE DE DEVELOPPEMENT

Par M. Jacques ANTOINE,
Administrateur INSEE,
Directeur d'Etudes à la
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Mathématique Appliquées

Les mémoires rédigés à l'intention de la Conférence des Nations Unies sur l'application de la science et de la technique dans l'intérêt des régions peu développées sont des documents de travail. Ils sont publiés tels qu'ils ont été présentés et les assertions et opinions qu'ils contiennent sont celles de leurs auteurs.

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RAPPORTS ENTRE PROGRAMMES D'HABITATION ET PLANS DE DEVELOPPEMENT ECONOMIQUE ET SOCIAL DANS LES PAYS EN VOIE DE DEVELOPPEMENT

INTRODUCTION

Peu nombreux sont les pays en voie de développement qui ont établi une véritable politique de l'habitat, coordonnée au plan de développement. Une telle politique, se traduisant par des programmes d'action, doit être élaborée en tenant compte :

- des besoins de la population
- des modalités possibles de réalisation
- des effets économiques et sociaux des programmes.

Elle doit enfin s'inscrire dans une politique générale d'aménagement du territoire. Les besoins sont souvent estimés sommairement et sans enquête suffisante. L'application de normes plus ou moins arbitraires, l'analogie avec la situation dans d'autres pays qui ne sont jamais vraiment comparables, sont souvent sujets à caution. D'autre part, les bases d'application de ces normes, par exemple la description statistique des ménages, font souvent complètement défaut.

En ce qui concerne les modalités possibles de réalisation, la plupart du temps, les techniciens, faute d'imagination, transposent directement des méthodes et des procédés qui sont valables sous d'autres climats et dans des économies de stade beaucoup plus avancé.

Enfin, s'il est admis que pour des projets industriels ou même agricoles, les études préliminaires doivent comporter l'analyse de la rentabilité et des effets sur l'économie du projet, il en est rarement de même lorsqu'il s'agit d'investissements portant sur des infrastructures non immédiatement rentables.

Nous traitons ici le cas des investissements en matière d'habitat. Nos remarques seront transposables mutatis mutandis à d'autres types d'infrastructures : investissements dans le domaine de l'enseignement, de la santé et de certaines infrastructures générales.

Bien que notre propos soit de montrer l'inter-dépendance des différents aspects de ces problèmes, il est nécessaire tant pour la clarté de l'exposé que pour la conduite des études, de distinguer :

I - AMENAGEMENT DU TERRITOIRE

Un programme d'habitat doit être établi dans le cadre de perspectives à long terme. Le logement est, en effet, un bien immobilier dont l'amortissement s'étend sur un grand nombre d'années. Certes, l'amortissement de la construction est sûrement plus rapide dans les pays en voie de développement que dans les pays déjà développés. Il arrive que certaines constructions doivent être reconstruites pratiquement tous les ans. Dans l'état actuel des villes en pays sous-développés et compte tenu des moyens limités disponibles pour la reconstruction, on devrait pouvoir baser le renouvellement des bâtiments sur un amortissement en 20 ans. Il est clair, en tous cas, que le cadre de 3 à 5 ans généralement retenu pour l'établissement des plans de développement est trop limité pour permettre l'élaboration d'une politique cohérente de l'habitat.

Fort heureusement, l'établissement de ces plans à moyen terme se fait de plus en plus souvent dans le cadre de perspectives plus globales à plus long terme : 10, 15 ou 20 ans par exemple.

C'est dans ces perspectives que doivent être pensés les principaux problèmes d'aménagement du territoire qui, par nature, se posent à long terme.

Nous pensons donc que le rapport entre la planification économique et l'aménagement du territoire doit être trouvé dans une déconcentration par région et par type de localité

du tableau économique et social fournissent les perspectives de développement à long terme.

Le premier problème qui se pose est celui d'un découpage géographique adapté à l'ensemble des problèmes. Le découpage respectant les limites administratives des différentes circonscriptions intérieures au pays présente un avantage évident du point de vue de la gestion administrative et de l'exécution du plan. Il est clair que ces découpages ne sont pas généralement significatifs au point de vue sociologique et économique.

Bien qu'il soit nécessaire dans cette phase du travail de simplifier au maximum le découpage retenu, on ne doit pas perdre de vue les notions de centres urbains hiérarchisés (grandes villes, centres secondaires, bourgs, villages-centres, etc.) de zones d'influence de zones de peuplement définis par la géographie, l'anthropologie et la sociologie, etc.

Il ne faudrait pas, en effet, qu'un découpage trop strict entre zones urbaines et zones rurales se traduise ensuite par une opposition radicale entre deux modes d'habitat opposition qui a sans doute été l'une des causes de l'afflux vers les villes.

Le découpage, une fois établi, les perspectives à long terme doivent préciser, compte tenu de ce découpage, la répartition de la population et des groupes familiaux à loger. Il est utile également de fixer au moins qualitativement la nature de cette population ainsi que l'ordre de grandeur de son revenu.

Il est souhaitable que les perspectives ainsi établies ne soient pas seulement des calculs de fonctionnaires ou d'experts : il doit y entrer une part de volonté politique. On trouve notamment dès ce stade initial le problème - connu mais non résolu - de l'effet d'entraînement sur les migrations vers les villes des programmes d'habitat urbain et d'équipement des villes. Il peut arriver qu'après un louable effort pour résorber les "bidonvilles" une municipalité se trouve devant le même problème, à une plus grande échelle, pour une nouvelle vague d'immigrants.

Il est clair,que l'équilibre doit être recherché entre l'équipement des villes et celui des campagnes de façon à ce que les habitants des zones rurales disposent chez eux de commodités de vie accrues.

II - BESOINS DE LA POPULATION

Il faut, dans l'étude des besoins, distinguer les différents milieux sociologiques et en particulier les milieux ruraux et les milieux urbains, sous les réserves indiquées plus haut.

On peut adopter la démarche suivante :

a) Effectuer d'abord une étude sociologique qualitative sur les habitudes et les désirs des familles : il s'agit de mieux définir la composition du groupe familial à loger et les modes particuliers de cohabitation des membres de ce groupe, le mode de préparation des aliments, le mode d'isolement désiré par rapport aux logements voisins, les aptitudes d'évolution vers des modes de logements différents, etc.

b) On peut ensuite effectuer une première recherche technique sur des types de logement adaptés aux besoins et aux désirs des habitants, tout en marquant un certain progrès dans le sens d'une évolution estimée souhaitable.

Cette recherche doit nécessairement être liée à l'étude des modes de réalisation dont il est question plus loin (cf. ci-dessousIII).

c) On peut ensuite, disposant de plans-types de logements et d'un ordre de grandeur du

coût de réalisation et/ou de loyer, procéder à des études statistiques, comportant au besoin l'exécution d'enquêtes auprès de la population, pour déterminer les éléments d'un programme d'habitat.

On peut distinguer (1) :

- Les besoins objectifs, calculés par référence à des normes d'habitat considérées comme souhaitables : une famille de tant de personnes doit disposer d'un logement comprenant tel nombre de pièces et telles commodités annexes.
- La demande exprimée par la population (surtout en ville).
- La demande solvable, par référence à des types de logements bien définis, au revenu des ménages et à leur attitude vis-à-vis du logement.

Des études de ce genre ont été déjà réalisées notamment en 1959 dans certaines villes d'Afrique du Nord. L'étude statistique comportant l'exécution d'enquêtes par sondage en milieu musulman urbanisé a donné en particulier des indications de deux types :

1. Une description assez précise des conditions actuelles de logement : population totale de certains quartiers mal connus, nombre de ménages et leur répartition par nombre de personnes, nombre de logements suivant la nature, le nombre de pièces, etc., dépenses actuellement consenties par les habitants pour leur logement.
2. Des indications qualitatives et quantitatives sur l'évolution possible de la situation : demandes solvables pour différents types de logements bien définis, masse globale des dépenses possibles pour le logement des ménages musulmans ainsi que la distribution de ces dépenses suivant le type et la structure des ménages, etc.

Des précautions particulières ont été prises au niveau de l'enquête pour rendre les résultats aussi significatifs que possible. Les principales modalités de l'enquête à signaler à ce point de vue sont les suivantes :

a- La détermination du revenu mensuel du ménage a fait l'objet d'une partie importante de l'enquête sur la base de questions détaillées énumérant toutes les sources de revenus possibles et complétées par des indications sur l'activité exercée par les différents membres du ménage (nombre de jours de travail, nature de ce travail, etc.) dans le mois précédant l'enquête ;

b. Les types de logements possibles étaient concrétisés par des plans et des photos de maquettes qui étaient présentés aux personnes interrogées. Le choix du type de logement désiré s'effectuait sur la base de ces plans et maquettes commentés par l'enquêteur ;

c. La détermination du loyer possible et accepté faisait également l'objet d'un entretien détaillé au cours duquel était examiné l'ensemble des dépenses autres que le logement et la compatibilité du loyer ou des mensualités nécessaires pour accéder au logement désiré avec le revenu et l'ensemble des autres dépenses ;

d. De façon à tester la validité des désirs exprimés et des loyers acceptés, une enquête particulière a été menée auprès des ménages musulmans ayant accédé récemment àdes logements neufs.
Les loyers effectivement payés par ces ménages se sont trouvés très cohérents avec ceux acceptés par les ménages mal logés.

III - MODALITES POSSIBLES DE REALISATION

L'étude des modalités concrètes de réalisation des programmes d'habitat dans une optique favorable au développement suppose - avons-nous dit en introduction - un effort

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(1) On trouvera de plus amples développements dans "La demande solvable de logements en milieu urbain", Jacques ANTOINE : Communication présentée à l'Institut International de Statistique - Paris - Septembre 1961.

d'imagination sur la base d'une connaissance concrète et pratique des réalités du pays concerné par le programme. Elle suppose aussi une collaboration étroite entre les économistes, les architectes, les ingénieurs, les administrateurs et les sociologues.

Les économistes insisteront sur la nécessité de définir des formules produisant certains types d'effets dans la région et le pays. Cet aspect est développé ci-dessous au point IV.

Les architectes et les ingénieurs s'efforceront de définir des plans-types de logements variables suivant les régions et adaptés aux matériaux localement disponibles ainsi qu'au niveau des connaissances technologiques de la population.

Les sociologues et les administrateurs rechercheront avec les techniciens les modes possibles d'association de la population à la construction de leur logement. Par exemple, il existe parfois en Afrique certains types d'associations de fait qui n'ont pas toujours un caractère familial ou tribal mais qui, n'ayant pas seulement l'aspect négatif d'un parasitisme, peuvent être utilisés pour faire participer à un effort d'équipement une population encore en dehors de l'économie monétaire. On a remarqué, de même, que l'épargne-travail se mobilise plus facilement dans l'habitat traditionnel sur la base d'une trame préalablement équipée et cette mobilisation est plus difficile dans le cas de type de base plus évoluée.

Les administrateurs et les sociologues se préoccupent encore de même que les économistes de voir les types d'habitat nouveaux marquer une évolution vers plus d'hygiène et de confort tout en respectant la personnalité des bénéficiaires.

L'habitat doit en outre contribuer à l'épanouissement de la personne et de la famille et à l'insertion du groupe familial dans la vie sociale.

Si l'établissement de formules-types est le centre de la recherche, cette dernière doit généralement aller plus loin. En effet, on ne peut guère étudier un type de logement sans concevoir en même temps son mode de groupement.

En allant du particulier au général, on pourra être amené à étudier simultanément le type de logement, le plan-masse d'un groupe de logements, le plan de structure d'un quartier enfin le plan d'urbanisme d'ensemble d'une ville, voire d'un réseau de villes ou de villages.

IV - EFFETS ECONOMIQUES ET SOCIAUX DES PROGRAMMES

Les analyses qui suivent sont plus particulièrement du ressort des économistes ainsi que des sociologues. Effectuées sur la base de projets précis dans des régions et pays bien définis, elles peuvent permettre d'orienter efficacement les programmes à promouvoir. On remarque, en effet, que les conséquences économiques et sociales des programmes d'habitat sont différents suivant le terme considéré.

- A court terme, on peut observer les effets suivants :

  a) un programme de logement a des effets sur l'activité des industries du bâtiment et des industries connexes (gros oeuvre, second oeuvre, matériaux de construction, fournitures du bâtiment, éventuellement ameublement et équipement ménager), l'effet est bénéfique dans les pays de sous-emploi, car ces professions ont une forte part de main-d'oeuvre dans leur valeur ajoutée ;

  b) mais ces effets peuvent être plus ou moins bénéfiques pour le pays : il faut donc rechercher des formules qui procurent le maximum de valeur ajoutée intérieure au pays en évitant en particulier le plus possible le recours à l'importation.

On peut discuter de ce point de vue les formules de préfabrication partielle ou totale : si la préfabrication permet souvent de gagner sur les délais de réalisation des programmes, elle fait appel fréquemment à des matériaux et à des techniques d'importation. Des exemples ont montré en fait que des formules de préfabrication locale sont possibles tout en faisant appel à l'épargne-travail pour le montage des ensembles ou sous-ensembles au lieu de destination ;

c) mobilisation possible d'une partie de l'épargne-travail disponible ;

d) l'objectif social d'amélioration des conditions de vie est fondamental. On peut procéder à des enquêtes sociologiques pour savoir dans quelle mesure il est satisfait.

- A moyen terme :

Les effets économiques d'un programme de logement sont pratiquement nuls. Il est donc important qu'une certaine continuité existe dans la réalisation des programmes. Les programmes basés sur un financement public et/ou extérieur sont particulièrement vulnérables. Plus généralement, on ne peut pas fonder le développement économique d'ensemble sur celui de l'habitat.

Tout au plus peut-on noter que si la condition b) ci-dessus est satisfaisante (recherche des effets intérieurs maximum) l'exécution continue des programmes doit amener à moyen terme certaines modifications dans la structure de l'économie:en particulier ces programmes peuvent être un instrument de promotion pour un artisanat ou une petite industrie locale directement liés à une conception judicieuse et réaliste de la construction.

- A long terme :

L'économie doit être bénéficiaire de l'amélioration générale du standing d'existence de la population. L'habitat a dans cette perspective le même genre d'effets -difficiles à chiffrer - que l'éducation et la santé.

V - CONCLUSION

Tout au long de cet exposé, on a insisté sur les liens existant entre différents types d'analyse et sur la nécessité d'établir le programme en fonction des données concrètes économiques, techniques et sociologiques du pays étudié.

L'existence de ces liens nous conduit à formuler les trois voeux suivants qui nous paraissent être sur le plan de la préparation effective des programmes, les conséquences directes de nos remarques :

1. Un programme de développement et d'investissement en matière d'habitat doit être établi dans le cas d'un plan de développement économique et d'un plan d'aménagement du territoire tous deux à long terme et étroitement coordonnés.

2. L'élaboration de ce programme appelle une coopération entre économistes, sociologues, architectes, urbanistes, ingénieurs et administrateurs.
La constitution d'équipes intégrées de ce type se heurte souvent à des difficultés pratiques étant donné les modalités de travail habituelles des Administrations Publiques trop fréquemment cloisonnées, chacune restant dans sa spécialité. Cette constatation va également contre le recours aux experts isolés. La réunion de plusieurs experts individuels d'origines différentes ne constitue pas ipso facto une équipe coordonnée et efficace.

3. Comme tout plan, mais spécialement en raison de ce qui précède le programme d'habitat doit faire l'objet de mises au point en permanence. Un va-et-vient continuel doit exister entre les études et les réalisations.
Il est souhaitable toutefois que les perspectives à long terme de développement et d'aménagement du territoire restent aussi constantes que possible.

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SUMMARY

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France

THE RELATIONSHIP BETWEEN HOUSING PROGRAMMES AND ECONOMIC AND SOCIAL DEVELOPMENT PLANS IN DEVELOPING COUNTRIES

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Papers have been contributed to the United Nations Conference on the Application of Science and Technology for the Benefit of the Less Developed Areas as working papers for that Conference. They are published as presented by the contributors, and the contents and the views expressed are those of the contributors. (See notes overleaf.)

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THE RELATIONSHIP BETWEEN HOUSING PROGRAMMES AND ECONOMIC AND SOCIAL DEVELOPMENT PLANS IN DEVELOPING COUNTRIES

by

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INTRODUCTION

Very few of the countries undergoing development have established a real housing policy coordinated with their development plan. In framing a policy of this kind, together with the action programmes by which it is to be implemented, due consideration should be given to:

- the needs of the population;

- possible methods of achievement;

- economic and social effects of the programmes.

It should also form part of a general development policy for the whole territory.

I. DEVELOPMENT OF THE TERRITORY

A housing programme should be drawn up on a long-term basis; a dwelling is in fact real estate and is in principle lasting.

Long-term plans (at least 10 years) should indicate in general terms the distribution of the population and families (i.e. family groups to be housed) according to the country's main regions, and should distinguish between the towns (at least the largest of them) and the rural areas.

The geographical areas adopted must have a sociological significance

II. NEEDS OF THE POPULATION

In studying needs, a distinction should be made between the various sociological backgrounds, and in particular between rural and urban conditions.

The following procedure can be adopted:

(a) Undertake first of all a qualitative sociological study of the habits and wishes of families.

(b) This could be followed by a first technical survey of the types of homes adapted to the needs and desires of the inhabitants, while at the same time effecting some progress towards an improvement regarded as desirable.

(c) Then, with plans of specimen homes and information as to the cost of building and/or renting, it would be possible to carry out statistical studies, including if necessary population surveys to determine the basic requirements of a housing programme.

Consideration may be given to: *

- objective needs, calculated on the basis of housing standards considered desirable;

- demand expressed by the population (especially in the towns);

- demand which can be satisfied, with due regard to specific types of homes, family incomes and the family's attitude to housing.

As an example we shall describe a statistical study of this kind, including spot checks, in a North African Mohammedan community which has recently become urbanised.

III. POSSIBLE METHODS OF ACHIEVEMENT

This deals with researches requiring close cooperation between the architect, engineer, administrator and sociologist, all four assumed to have a complete knowledge of the economic and social data of the region or town under consideration.

Types of homes have to be sought which are adapted to the possibilities of the country, both as regards material required and building methods.

Research should cover more than the mere definition of a type of home and should go a good way towards town planning.

IV. ECONOMIC AND SOCIAL EFFECTS OF PROGRAMMES

Effects differ according to the period covered by the plan.

- Short-term:

  - effect on the activity of the building industry and allied trades;

  - possible labour-saving methods;

  - search for formulas which procure maximum internal added value for the country;

  - social objective of improved living conditions.

- Medium-term:

  - The economic effects of a housing programme are practically nil. This stresses the importance of ensuring a certain continuity in carrying out the programmes, and also the vulnerability of programmes financed from public and/or external funds. Generally speaking, overall economic development cannot be based on a housing plan.

- Long-term:

  - The economy should benefit from the general improvement in the living standards of the population. In this connection housing has the same kind of effect - difficult to put in exact figures - as education and health.

V. CONCLUSION

The conclusion deals with the links existing between these various types of analysis, leading to practical recommendations.

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* See La demande solvable de logements en milieu urbain by Jacques Antoine: document submitted to the International Institute of Statistics, Paris, September 1961.

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